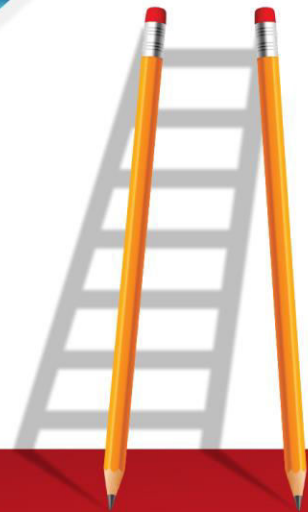


BIOLOGY



Worksheet-2



STP

A PROJECT BY PUNJAB GROUP

Worksheet-2**(Coordination and control/ Nervous)**

Q.1 Nervous coordination involves specialized cells or neurons linked together directly or via the central nervous system, to form network that connects the:

- A) Receptor and neurons
- B) Receptors and effectors
- C) Receptors and CNS
- D) CNS and effectors

Q.2 The neurons has capacity to generate and conduct impulses which travel across the:

- A) Synapse and pass from the receptors to effectors
- B) Effectors and pass from the synapse to receptors
- C) Synapse and pass from the effectors to receptor
- D) Receptors and pass from the synapse to effectors

Q.3 The elements of nervous system which help in coordination are:

- A) Receptors, neurons and effectors
- B) CNS and PNS
- C) Motor, sensory and associative neurons
- D) Brian and spinal cord

Q.4 The receptors for smell, taste and blood composition are:

- A) Mechanoreceptors C) Nociceptors
- B) Chemoreceptors D) Thermoreceptor

Q.5 The example of chemoreceptors is:

- A) Eyes C) Stray ending
- B) Nose D) Rods and cones

Q.6 All are the examples of mechanoreceptors , EXCEPT:

- A) Free nerve endings
- B) Stray endings
- C) Expanded tip endings
- D) Rods and cones

Q.7 It is an example of mechanoreceptors:

- A) Hypothalamus
- B) Expanded tip endings
- C) Tongue
- D) Rods and cones

Q.8 These respond to stimuli of light:

- A) Mechanoreceptors
- B) Chemoreceptors
- C) Photoreceptors
- D) Undifferentiated ending

Q.9 The receptors that receive stimuli of light are:

- A) Free nerve ending
- B) Rods and cones
- C) Expanded tip endings
- D) Stray nerve ending

Q.10 All of the principal types of sensations that we can experience are called:

- A) Visceral sensations
- B) Sensation of pain
- C) Modalities of sensation
- D) Sensation of body position

Q.11 Despite the fact that we experience different modalities of sensation, nerve fibres transmit only:

- A) Responses C) Stimuli
- B) Impulses D) Few

Q.12 The _____ is determined by the point in the CNS to which the nerve fibre leads:

- A) Type of sensation
- B) Strength of sensation
- C) Intensity of sensation
- D) Frequency of sensation

Q.13 Touch stimulus is carried by nerve impulse in the:

- A) Visual cortex of brain
- B) Auditory centre of brain
- C) Taste centre of brain
- D) Touch area of brain

Q.14 Each receptor organ is specialized to receive a particular type of stimulus and this is carried to the:

- A) Particular area of the PNS
- B) Particular area of the muscles
- C) Particular area of the glands
- D) Particular area of the brain

Q.15 In skin the receptors are concerned with at least how many different senses:

- A) Two
- B) Three
- C) Four
- D) Five

Q.16 Receptors found in the skin are associated with:

- A) Touch, pressure, hearing, cold & pain
- B) Touch, pressure, heat, cold & pain
- C) Touch, pressure, heat, cold & visual
- D) Touch, taste, heat, cold & pain

Q.17 The detection of vibration of the ground by terrestrial vertebrates is probably achieved by receptors in the:

- A) Joints
- B) Eyes
- C) Ears
- D) Base of hairs

Q.18 The relative abundance of various types of receptors:

- A) Remains same
- B) Differ rarely
- C) Differs greatly
- D) Remains uniform

Q.19 Cold receptors are nearly _____ less abundant than pain receptors:

- A) 27 percent
- B) 10 percent
- C) 27 times
- D) 10 times

Q.20 _____ receptors are nearly 27 times more abundant than cold receptors:

- A) Temperature
- B) Heat
- C) Pain
- D) Touch

Q.21 _____ receptors are nearly 27 times less abundant than pain receptors:

- A) Touch
- B) Heat
- C) Temperature
- D) Cold

Q.22 The receptors are _____ over the entire surface of the body.

- A) Distributed evenly
- B) Not distributed evenly
- C) Not distributed unevenly
- D) Not distributed

Q.23 _____ receptors are much more numerous in the finger tips than in the skin of the back:

- A) Touch
- B) Pain
- C) Cold
- D) Heat

Q.24 The unequal distribution of touch receptor in finger tips as compared to the backside skin indicates the:

- A) Normal functions of those two parts of the body
- B) Location of those parts of the body
- C) Surface area of these parts of the body
- D) Size of those parts of the body

- Q.25** The stimulus received by the receptors in the skin which are the endings of sensory neurons is passed to the _____ via inter neurons:
A) Interneurons C) Motor neurons
B) Relay neurons D) Somatic neurons
- Q.26** Example of mechanoreceptors is/are:
A) Eyes C) Rods and cones
B) Stretch receptors D) Hypothalamus
- Q.27** The stimulus received by the receptors in the skin is passed to the motor neurons via associative neurons which are present in the:
A) Brain C) Brain and spinal
B) Spinal cord D) Fingertips
- Q.28** Impulse is sent by the motor neurons to the:
A) Receptors C) Muscles
B) Effectors D) Glands
- Q.29** The sensations of _____ are detected by modified sensory neurons having naked nerve endings:
A) Heat and cold C) Touch and pain
B) Pain and cold D) Pain and heat
- Q.30** The sensations of _____ are detected by modified sensory neurons:
A) Touch, pressure, heat, cold and pain
B) Hearing, taste, body position and smell
C) Touch, pressure, hearing, taste and pain
D) Pressure, pain, taste, touch and smell
- Q.31** Specialized cellular corpuscles detect the sensation of:
A) Pressure, touch and pain
B) Pressure, vision and hearing
C) Pressure, heat and cold
D) Pressure, taste and touch
- Q.32** The chief structural and functional units of nervous system are:
A) Cell bodies
B) Neurons
C) Axons
D) Receptors & Effectors
- Q.33** _____ play a vital role in the nutrition of neurons and their protection by myelin sheath:
A) Soma C) Neuroglia
B) Cell body D) Dendrites
- Q.34** There are _____ functional types of neurons:
A) Two C) Four
B) Three D) Five
- Q.35** The _____ of certain brain cells branch profusely, giving cell a tree like appearance:
A) Axons C) Dendrites
B) Cell bodies D) Soma
- Q.36** Many granules are present in the _____ of neuron:
A) Axon ending
B) Axons
C) Dendrites
D) Cell bodies or soma
- Q.37** Many sensory neurons have only one fiber, which branch:
A) A long distance from the cell body
B) A short distance from the cell body
C) A long distance from the CNS
D) A short distance from the PNS

Q.38 The neuron has _____ arising from its cell body:

- A) Dendrites
- B) Axons
- C) Dendron
- D) Protoplasmic processes

Q.39 There are _____ main types of cytoplasmic processes or fibres in neurons:

- A) Two
- B) Three
- C) Four
- D) Five

Q.40 It may be more than a meter long in some neurons:

- A) Axon ending
- B) Axon
- C) Dendrite
- D) Dendron

Q.41 Nissl's granules which are groups of ribosomes associated with endoplasmic reticulum and Golgi apparatus are present in the:

- A) Dendrites
- B) Axon
- C) Cell body
- D) Axoplasm

Q.42 Microtubules, neurofibrils, rough endoplasmic reticulum and mitochondria are present throughout the _____ of the neuron:

- A) Axon
- B) Dendron
- C) Cytoplasm of axon
- D) Dendrites

Q.43 The _____ is the main nutritional part of the nerve cell and is concerned with the biosynthesis of materials necessary for the growth and maintenance of the neuron:

- A) Cell body or soma
- B) Dendrites
- C) Dendron
- D) Axon

Q.44 If the _____ of the neuron remains intact, it can regenerate axonal and dendrite fibres, but neuron once mature, do not divide any further:

- A) Axon
- B) Dendron
- C) Cell body
- D) Dendrites

Q.45 The structures which respond to the impulse coming via motor neurons are:

- A) Receptors
- B) Effectors
- C) Sense organs
- D) Pacinian corpuscles

Q.46 The nervous pathways utilized for an immediate and involuntary action performed by our body is called:

- A) Spinal cord
- B) Brain
- C) Reflex arc
- D) CNS

Q.47 Flow of impulse through the nervous system involving _____ will be clear if we study an example of reflex arc:

- A) Receptors, neurons & effectors
- B) Forebrain, Mid brain & Hind Brain
- C) Sensory, motor and associative neurons
- D) Brain, Spinal cord & PNS

Q.48 Reflex arc is the pathway of passage of impulse during a:

- A) Voluntary action
- B) Nervous action
- C) Unconscious action
- D) Reflex action

Q.49 The simple reflex circuit includes of the four elements of a neural pathway in following sequence:

- A) Sensory neuron, associative neuron, motor neuron and muscles
- B) Sensory neuron, motor neuron, associative neuron and glands
- C) Sensory neuron, motor neuron, associative neuron and muscles
- D) Associative neurons, sensory neurons, motor neurons and muscles

Q.50 The sensory neurons have pain sensitive endings in the:

- A) Joints C) Skin
- B) Ears D) Nose

Q.51 The sensory neurons have pain sensitive ending in the skin and _____ leading to the spinal cord:

- A) Short fibre C) Thick fibre
- B) Long fibre D) Thin fibre

Q.52 The sensory neurons also make a synapse on associative neurons not involved in the reflex, that carry signals to the brain:

- A) Informing it of the danger
- B) Informing it of the situation
- C) Informing it of the tranquil position
- D) Informing it of the confusion

Q.53 Nerve impulse is a wave of electrochemical change, which travels along the length of the neuron involving _____ across the cell:

- A) Chemical reactions and movement of elements
- B) Chemical reactions and movement of molecules
- C) Physical actions and movement of ions
- D) Chemical reactions and movement of ions

Q.54 Human nervous system is a type of:

- A) Diffused nervous system
- B) Centralized nervous system
- C) Primitive nervous system
- D) Peripheral nervous system

Q.55 It conducts signals to and from the brain and controls reflex activities:

- A) Brain C) CNS
- B) Spinal cord D) PNS

Q.56 It carries signals from the CNS that control the activities of muscles and glands:

- A) Sensory neurons
- B) Brain
- C) Associative neurons
- D) Motor neurons

Q.57 It controls involuntary responses by influencing organs, glands and smooth muscles:

- A) Somatic nervous system
- B) Central nervous system
- C) Autonomic nervous system
- D) Peripheral nervous system

Q.58 The CNS consists of brain and spinal cord, which are both protected in:

- A) Two ways C) Four ways
- B) Three ways D) Five ways

Q.59 _____ which is a part of skull, protects the brain:

- A) Meninges
- B) CSF
- C) Cranium
- D) Vertebral columns

Q.60 The brain and spinal cord are also protected by _____ layers of meninges:

- A) Single
- B) Double
- C) Triple
- D) Tetra

Q.61 _____ bathes the neurons of brain and spinal cord and cushions against the bumps and jolts:

- A) Meninges
- B) Saliva
- C) Cerebrospinal fluid
- D) Amniotic fluid

Q.62 The spinal cord has:

- A) Many cavities
- B) Many ventricles
- C) Central canal
- D) Many canals

Q.63 Thalamus, limbic system and cerebrum are three functional parts of:

- A) Fore brain
- B) Mid brain
- C) Hind brain
- D) Limbic system

Q.64 The information that includes sensory input from auditory and visual pathways, from the skin and from within the body is carried by _____ to limbic system and cerebrum:

- A) Thalamus
- B) Hypothalamus
- C) Cerebrum
- D) Limbic system

Q.65 _____ works together to produce our most basic and primitive emotions, drives and behaviors:

- A) Cerebrum
- B) Thalamus
- C) Corpus callosum
- D) Limbic system

Q.66 Fear, rage, tranquility, hunger, thirst, pleasure and sexual responses are the most _____ emotions:

- A) Basic and primitive
- B) Exceptional
- C) Developed and advanced
- D) Extraordinary

Q.67 Limbic system consists of:

- A) Hypothalamus, amygdala & hippocampus
- B) Thalamus, Hypothalamus & Amygdala
- C) Hypothalamus, Pons & Hippocampus
- D) Amygdala, Hippocampus & thalamus

Q.68 It acts as a major coordinating center controlling body temperature, hunger, the menstrual cycle, water balance, the sleep wake cycle etc.:

- A) Hypothalamus
- B) Hippocampus
- C) Thalamus
- D) Amygdala

Q.69 It plays an important role in formation of long term memories:

- A) Hippocampus
- B) Amygdala
- C) Hypothalamus
- D) Cerebrum

Q.70 It is the largest part of the brain:

- A) Cerebellum
- B) Amygdala
- C) Cerebrum
- D) Thalamus

Q.71 Cerebrum consists of _____ of neurons:

- A) Ten billion
- B) Ten million
- C) Tens of billions
- D) Tens of millions

Q.72 It directs the voluntary movements:

- A) Cerebral cortex
- B) Cerebral medulla
- C) Cerebral hemispheres
- D) Cerebellum

Q.73 It contains primary sensory areas:

- A) Cerebral medulla
- B) Cerebral hemispheres
- C) Corpus callosum
- D) Cerebral cortex

- Q.74** This area is involved in speech and also receives and interprets sensation of touch from all parts of the body:
- A) Cerebral hemispheres
 - B) Cerebral cortex
 - C) Corpus callosum
 - D) Cerebral medulla
- Q.75** The left cerebral hemisphere controls the:
- A) Right side of the body
 - B) Upper side of the body
 - C) Left side of the body
 - D) Lower side of the body
- Q.76** It is very important in screening the input information, before they reach higher brain center:
- A) Corpus callosum
 - B) Mid brain
 - C) Reticular formation
 - D) Cerebrum
- Q.77** Certain neurons in _____ located above the medulla, appear to influence transition between sleep and wakefulness, and the rate and pattern of breathing:
- A) Medulla oblongata
 - B) Cerebellum
 - C) Pons
 - D) Mid brain
- Q.78** It is also involved in learning and memory storage for behaviors:
- A) Pons
 - B) Cerebellum
 - C) Limbic system
 - D) Hippocampus
- Q.79** Medulla oblongata narrows down into an oval shaped hollow cylinder called:
- A) Cerebellum
 - B) Pons
 - C) Spinal cord
 - D) Vertebral column
- Q.80** It runs through the vertebral column:
- A) Spinal cord
 - B) Meninges
 - C) Cerebrospinal fluid
 - D) CSF
- Q.81** An inner butterfly shaped grey matter is found in:
- A) Cerebrum
 - B) Cerebellum
 - C) Spinal cord
 - D) Medulla oblongata
- Q.82** White matter of spinal cord is made up of:
- A) Myelinated nerve fibres
 - B) Non-myelinated nerve fibres
 - C) Myelinated nerve tracts
 - D) Myelinated nerve fibres or tracts
- Q.83** It is centre of great many reflexes and it serves as a pathway for conduction of impulses to and from different parts of the body and brain:
- A) Spinal cord
 - B) Medulla oblongata
 - C) Cerebellum
 - D) Brain
- Q.84** It acts as relay centre in brain:
- A) Thalamus
 - B) Mid brain
 - C) Pons
 - D) Thalamus and mid brain
- Q.85** PNS comprises of _____ and _____ which may form ganglia and the nerves:
- A) Sensory neurons, associative neurons
 - B) Associative neurons, sensory neurons
 - C) Sensory neurons, motor neurons
 - D) Somatic neurons, autonomic neurons

Q.86 These are bundles of axons or dendrites bound by connective tissue:

- A) The nerves C) Grey matters
- B) The ganglia D) Spinal cord

Q.87 It may be sensory, motor or mixed, depending upon the direction of impulse they conduct:

- A) Neuron C) Nerve
- B) Nerve cell D) Ganglia

Q.88 The stimulus received by the receptors in the skin (which are the endings of sensory neurons) is passed to the motor neurons via _____ neurons:

- A) Inter or somatic
- B) Sympathetic & Parasympathetic
- C) Somatic or autonomic
- D) Inter or associative

Q.89 Biochemical reactions are regulated by:

- A) Enzymes C) Hormones
- B) Coenzymes D) Cofactors

Q.90 Long term changes in our body are regulated by:

- A) Enzyme C) CNS
- B) Neurons D) Hormone

ANSWER KEY (Worksheet-2)

1	B	24	A	47	A	70	C
2	A	25	C	48	D	71	C
3	A	26	B	49	A	72	A
4	B	27	A	50	C	73	D
5	B	28	B	51	B	74	B
6	D	29	C	52	A	75	A
7	B	30	A	53	D	76	C
8	C	31	C	54	B	77	C
9	B	32	B	55	B	78	B
10	C	33	C	56	D	79	C
11	B	34	B	57	C	80	A
12	A	35	C	58	B	81	C
13	D	36	D	59	C	82	D
14	D	37	B	60	C	83	A
15	D	38	D	61	C	84	D
16	B	39	A	62	C	85	C
17	A	40	B	63	A	86	A
18	C	41	C	64	A	87	C
19	C	42	C	65	D	88	D
20	C	43	A	66	A	89	C
21	D	44	C	67	A	90	D
22	B	45	B	68	A		
23	A	46	C	69	A		

EXPLANATION

Q.1 Answer is “Receptors and Effectors”

Explanation: Receptors receive stimuli and effectors respond but the neurons or nerve cells connect them together.

Q.2 Answer is “Synapse and pass from the receptors to effectors”

Explanation: Synapse is a cytoplasmic gap between axon endings of one neuron and dendrite endings of the next neuron. Impulse always travel from receptors to effectors via neurons. However at the end of each neuron and before the start of next neuron there is a protoplasmic gap called synapse. Impulse have to pass through it with the help of neurotransmitter.

Q.3 Answer is “Receptors, neurons and effectors”

Explanation: Receptors, neurons and effectors are three basic dementes of nervous system. Receptors receive the stimulus and pass on it in the form of impulse to neurons, which bring it to the CNS, where it is interpreted and then converted into subjective impressions. Then a direction is generated accordingly which is conveyed to the effectors for response by neurons.

Q.4 Answer is “Chemoreceptors”

Explanation: Such receptors which received chemical stimuli and notice chemical changes in internal environment are called chemoreceptors.

Q.5 Answer is “Nose”

Explanation: As smell is a chemical stimulus, nose as a chemoreceptor is associated with it.

Q.6 Answer is “Rods and cones”

Explanation: Rods and cones are photoreceptors.

Q.7 Answer is “Expanded tip endings”

Explanation: Expanded tip nerve endings receive stimuli of touch, pressure and texture.

Q.8 Answer is “Photoreceptors”

Explanation: Rods and cones being photoreceptors respond to the stimulus of light.

Q.9 Answer is “Rods and Cones”

Explanation: Rods and cones being photoreceptors respond to the stimulus of light.

Q.10 Answer is “Modalities of sensation”

Explanation: Each principle type of sensation that we experience, pain, touch, sight, sound and so forth is called modalities of sensation. We experience these different modalities while nerve fibers transmit only impulses. However the basic structural elements involved in perception and response of each sensation are similar i.e. receptors to sensory neurons to associative neuron to motor neurons to effectors make a model unit, involved in each sensation.

Q.11 Answer is “Impulses”

Explanation: Each sensation travels in the form of nerve impulse in nervous system.

Q.12 Answer is “Type of sensation”

Explanation: Type of sensation is determined by the sensory cells or organs receiving it and the part of CNS involved in its assessment.

Q.13 Answer is “Touch area of brain”

Explanation: Type of sensation is determined by the sensory cells or organs receiving it and the part of CNS involved in its response. A specific area in brain is called touch area that deals with the sensation of touch.

Q.14 Answer is “Particular area of the brain”

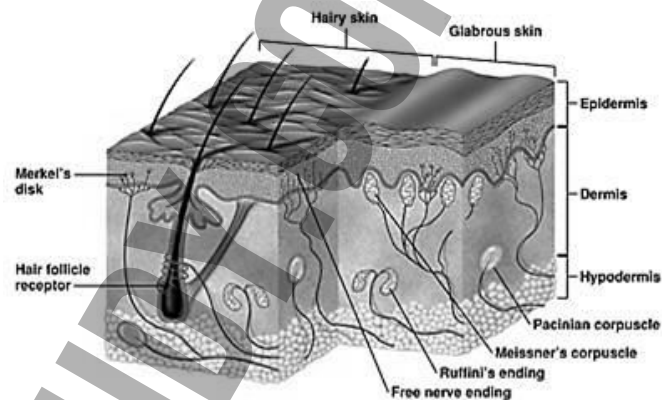
Explanation: Type of sensation is determined by the sensory cells or organs receiving it and the part of CNS involved in its response.

Q.15 Answer is “Five”

Explanation: These are touch, pressure, heat, cold and pain.

Q.16 Answer is “Touch, pressure, heat, cold and pain”

Explanation: These are touch, pressure, heat, cold and pain stimuli which are received by skin.

**Q.17 Answer is “Joints”**

Explanation: The mechanoreceptors associated with receipt of stimulus of vibration are located in joints.

Q.18 Answer is “Differs greatly”

Explanation: The relative abundance of receptors depends upon significance of sensation to which that particular type of receptor is associated.

Q.19 Answer is “27 times”

Explanation: The relative abundance of receptors depends upon significance of sensation to which that particular type of receptor is associated. Pain receptors are 27 times more than cold receptors

Q.20 Answer is “Pain”

Explanation: The relative abundance of receptors depends upon significance of sensation to which that particular type of receptor is associated. Pain receptors are 27 times more than cold receptors.

Q.21 Answer is “Cold”

Explanation: The relative abundance of receptors depends upon significance of sensation to which that particular type of

receptor is associated. Pain receptors are 27 times more abundant than cold receptors.

Q.22 Answer is “Not distributed evenly”

Explanation: The distribution of receptors is uneven and it depends upon the role of an organ with respect to that sensation e.g. fingers are usually used for touch so they have more abundant touch receptors.

Q.23 Answer is “Touch”

Explanation: The distribution of receptors is uneven and it depends upon the role of an organ with respect to that sensation.

Q.24 Answer is “Normal functions of those two parts of the body”

Explanation: Touch is mainly associated with finger tips, thus finger tips have maximum sensation for touch. Similarly being bilaterally symmetrical animals we always move in forward direction so our front body surface is more sensitive to touch as compared to backside of the body.

Q.25 Answer is “Motor neurons”

Explanation: Associative neurons prepare a direction and send it via motor neurons to effectors.

Q.26 Answer is “Stretch receptors”

Explanation: Stretch stimulus is a mechanical stimulus, so its receptors are mechanoreceptors.

Q.27 Answer is “Brain”

Explanation: CNS including brain is made up of associative neurons which interpret the stimulus and prepare direction to be sent to the effectors via motor neurons. Control centre for touch is located in cerebrum of brain.

Q.28 Answer is “Effectors”

Explanation: Effectors respond to the stimuli received by receptors.

Q.29 Answer is “Touch and pain”

Explanation: These are mechanoreceptors of skin which consist of modified sensory neurons having naked nerve endings.

Sensory receptors of the skin	
Modified sensory neurons having naked ends	Specialized cellular corpuscles
	Pressure
Touch	Hot
Pain	Cold

Q.30 Answer is “Touch, pressure, heat, cold and pain”

Explanation: The sensations of touch, pressure, heat, cold and pain are detected by modified sensory neurons having naked nerve endings (Touch and pain receptors or specialized cellular corpuscles, pressure, hot and cold receptors).

Q.31 Answer is “Pressure, heat and cold”

Explanation: Specialized cellular corpuscles detect the sensation of pressure, hot and cold.

Q.32 Answer is “Neurons”

Explanation: Though nervous tissue consists of neurons and neurological tissue. However, the neurons act as chief structural and functional units of nervous system.

Q.33 Answer is “Neuroglia”

Explanation: Neuroglia or glial cells e.g. Schwann cells are associated with protection and nourishment of neurons or nerve cells.

Q.34 Answer is “Three”

Explanation: Sensory, associative and motor neurons.

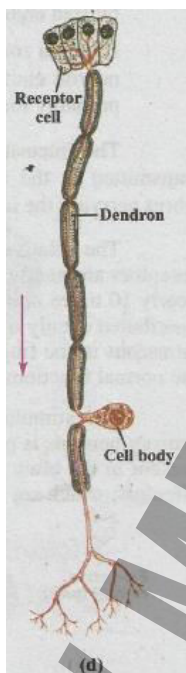
Q.35 Answer is “Dendrites”

Explanation: Dendrites are such cytoplasmic processes which bring nerve impulse towards the cell body.

Q.36 Answer is “Cell bodies or soma”

Explanation: Nissl’s granules which are groups of ribosomes associated with rough E.R and Golgi apparatus are present in cell bodies.

Q.37 Answer is “A short distance from the cell body”



Explanation: Usually the axon is considered the longest part of neurons or nerve cells, however in certain sensory neurons it is very short and their dendron is very long.

Q.38 Answer is “Protoplasmic processes”

Explanation: These are also called cytoplasmic processes and they consist of dendrites (dendron) and axons.

Q.39 Answer is “Two”

Explanation: Axons and dendrites or Dendron are two types of cytoplasmic processes of fibers.

Q.40 Answer is “Axon”

Explanation: These are axons of sciatic nerves which run from the base of the spinal cord to the big toe of each foot.

Q.41 Answer is “Cell body”

Explanation: Nissl’s granules are found in cell body or soma of neuron or nerve cell.

Q.42 Answer is “Cytoplasm of the axon”

Explanation: It is also called axoplasm.

Q.43 Answer is “The cell body or soma”

Explanation: Volumetrically dendrites and axons have very minute volume of cytoplasm as compared to cell body. It is the cell body which have a room to store some food and have a complete cellular machinery to synthesize something.

Q.44 Answer is “Cell body”

Explanation: Axons and dendrites can regenerate by the guidance and resource of nucleus containing cell body, however of cell body is removed there will be neither genetic material nor stored food to regenerate it.

Q.45 Answer is “Effectors”

Explanation: Effectors as muscles or glands respond to the directions which come through motor neurons to them.

Q.46 Answer is “Reflex arc”

Explanation: Reflex arc is a complete model unit to represent an action controlled by nervous system. It consists of receptor, three types of neurons and effectors. It is used to carry out reflex action.

Q.47 Answer is “Receptors, neurons and effectors”

Explanation: These are the components of a reflex arc.

Q.48 Answer is “Reflex action”

Explanation: An immediate and involuntary action of our body.

Q.49 Answer is “Sensory neuron, associative neuron, motor neuron and muscles”

Explanation: These are components of a reflex circuit in their functional sequence.

Q.50 Answer is “Skin”

Explanation: Pain sensitive nerve endings are located in the skin.

Q.51 Answer is “Long fiber”

Explanation: Pain sensitive sensory neurons have long fibers.

Q.52 Answer is “Informing it of the danger”

Explanation: These prepare the body for some dangerous situation.

Q.53 Answer is “Chemical reactions and movement of ions”

Explanation: Movement of ions is involved in the movement of nerve impulse.

Q.54 Answer is “Centralized nervous system”

Explanation: Having brain and spinal cord as central control centres of all human activities.

Q.55 Answer is “Spinal cord”

Explanation: Because all peripheral nerves pass through the spinal cord.

Q.56 Answer is “Motor neurons”

Explanation: Motor neurons receive the signals (directions) from CNS and deliver them to effectors.

Q.57 Answer is “Autonomic nervous system”

Explanation: It is involuntary control centre.

Q.58 Answer is “Three ways”

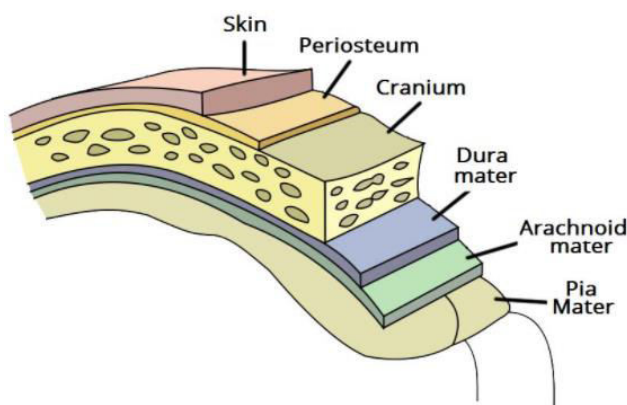
Explanation: Bony protection by cranium and vertebral column, membranous protection by triple layers of meninges and fluid protection by CSF.

Q.59 Answer is “Cranium”

Explanation: It is bony protection of brain i.e., brain case.

Q.60 Answer is “Triple”

Explanation: Meninges are three membranes that envelope the brain and spinal cord. In mammals the meninges are the dura mater, the arachnoid mater and the pia mater. Cerebrospinal fluid is located in the subarachnoid space between the arachnoid mater and pia mater.



Q.61 Answer is “Cerebrospinal fluid”

Explanation: The cerebrospinal fluid (CSF), similar in composition to blood plasma bathes the neurons of brain and spinal cord and cushions against bumps and jolts.

Q.62 Answer is “Central canal”

Explanation: That is why it is called dorsal hollow nervous system.

Q.63 Answer is “Forebrain”

Explanation: Forebrain consists of Thalamus, limbic system and cerebrum. The limbic system is further sub-divided into hypothalamus, amygdala and hippocampus.

Q.64 Answer is “Thalamus”

Explanation: Thalamus acts as relay centre between cerebrum and limbic system.

Q.65 Answer is “Limbic system”

Explanation: Limbic system works together to produce our most basic and primitive emotions, drives and behavior, including fear, rage, tranquility, hunger, thirst, pleasure and sexual arousal.

Q.66 Answer is “Basic and primitive”

Explanation: Because such emotions and behaviors are also found in primitive animals. Fear, rage, tranquility, hunger, thirst, pleasure and sexual arousal are considered most basic and primitive emotions and drives because these are held by primitive animals as well.

Q.67 Answer is “Hypothalamus, amygdala and hippocampus”

Explanation:

Parts	Functions
Hypothalamus	Through its hormone production and neural connection acts as a major coordinating centre controlling body temperature, hunger the menstrual cycle, water balance, the sleep wake cycle etc.
Amygdala	Produces sensation of pleasure punishment and sexual arousal when stimulated. It is also involved in feeling of fear and rage
Hippocampus	Plays an important role in the formation of long term memory and thus is required for learning.

Q.68 Answer is “Hypothalamus”

Explanation: Hypothalamus is considered major coordinating centre of our body as through its tropic hormones it regulates the activities of other endocrine glands and controls body temperature by acting as thermostat. It also controls water cycle and sleep cycle.

Q.69 Answer is “Hippocampus”

Explanation: Hippocampus plays an important role in the formation of long term memory and thus is required for learning.

Q.70 Answer is “Cerebrum”

Explanation: In humans cerebrum is the largest part of brain which consists of two hemispheres and rest of the brain is located

underneath it. With more recent estimates there are 21-26 billion neuron in the cerebral cortex alone.

Q.71 Answer is “Tens of billions”

Explanation: In humans cerebrum is the largest part of brain which consists of two hemispheres and rest of the brain is located underneath it. It consists of multiple of ten billion neurons.

Q.72 Answer is “Cerebral cortex”

Explanation: All voluntary control centers are located in cerebral cortex.

Q.73 Answer is “Cerebral cortex”

Explanation: Cerebral cortex contains sensory centres. Such as hearing centre, vision centre, taste centre, touch centre, smell centre etc.

Q.74 Answer is “Cerebral cortex”

Explanation: Sensory centres such as hearing centre, vision centre, taste centre, touch centre, smell centre etc are located in cerebral cortex.

Q.75 Answer is “Right side of the body”

Explanation: It is criss cross control i.e right hemisphere controls left half of the body whereas left hemisphere controls right half of the body.

Q.76 Answer is “Reticular formation”

Explanation: Midbrain contains reticular formation, which is a relay centre connecting hindbrain with the forebrain. Reticular formation is very important in screening the input information before they reach higher brain centres.

Q.77 Answer is “Pons”

Explanation: Certain neurons in pons located above the medulla, appear to influence transitions between sleeps and

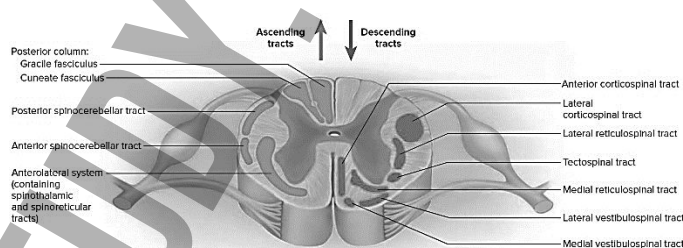
wakefulness and the rate and pattern of breathing.

Q.78 Answer is “Cerebellum”

Explanation: Like hippocampus it is also involved in memory storage.

Q.79 Answer is “Spinal cord”

Explanation: On lower side medulla is attached to spinal cord which is an oval and hollow structure.



Q.80 Answer is “Spinal cord”

Explanation: Spinal cord runs inside the vertebral column as vertebral column provides bony protection to spinal cord.

Q.81 Answer is “Spinal cord”

Explanation: Inner grey matter of spinal cord is butterfly shaped or H shaped and it consists of cell bodies.

Q.82 Answer is “Myelinated nerve fibres and tracts”

Explanation: White color is due to myelin which is made up of fats.

Q.83 Answer is “Spinal cord”

Explanation: All reflex activities are controlled by spinal cord.

Q.84 Answer is “Thalamus and midbrain”

Explanation: Thalamus acts as a cerebrum between cerebrum and limbic system whereas midbrain acts as a relay centre between forebrain and hindbrain.

Q.85 Answer is “Sensory neurons, motor neurons”

Explanation: PNS consists of sensory and motor neurons only as associative neurons are part of CNS.

Q.86 Answer is “The nerves”

Explanation: Nerves are bundles of axons or dendrites.

Q.87 Answer is “Nerve”

Explanation: Nerves are categorized into three categories on the basis of their composition i.e. motor sensory and mixed.

Q.88 Answer is “Inter or associative neuron”

Explanation: Inter neurons, intermediate neurons associative neurons or relay neurons are part of CNS.

Q.89 Answer is “Hormone”

Explanation: As enzymes speed up the already proceeding chemical reactions, hormones regulate them i.e. speed up or slow down according to the need of the body.

Q.90 Answer is “Hormones”

Explanation: Hormones regulate long term changes like development as well.

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